

REMARKS

Claims 1-4, 7, 10, 12, 13, and 16 are pending in the present application. Claims 5, 6, 8, 9, 11, 14, 15, and 17-72 have been previously withdrawn.

By way of the present amendment, claims 1, 10, and 12 are amended, herein. Claim 7 is canceled without prejudice to the inclusion of the subject matter of the claim in any later-filed divisional or continuation application(s).

Amendments to Claims

Claim 1 has been amended to delete language directed to a mutant, derivative, or fragment thereof. Claim 1 has been further amended to recite that the compensatory mutation is an amino acid substitution from threonine to alanine at amino acid residue number 391, wherein the amino acid residue number of said compensatory mutation is relative to the amino acid sequence of parental HIV-2/vcp gp120 as provided in SEQ ID NO:5. Support for this amendment is found on page 54, lines 1-2, and lines 25-27 of the specification.

Claim 10 has been amended to delete language directed to a compensatory mutation.

Claim 12 has been amended to delete language directed to a mutant, derivative, or fragment thereof.

No new matter is added by way of these amendments.

Rejection of claims 1-4, 7, 10, 12, 13, and 16 under 35 U.S.C. § 112, second paragraph

Claims 1-4, 7, 10, 12, 13, and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. To the extent that this rejection applies to claim 7, this rejection is rendered moot in view of the cancellation of this claim herein and the incorporation of the subject matter therein into amended claim 1. Applicants' response to this rejection therefore applies solely to claim 1-4, 10, 12, 13, and 16.

It is the Examiner's view that the definition of the claimed "derivatives" is not sufficient to allow a skilled artisan to determine the metes and bounds of the claimed derivatives. While not in agreement with the Examiner, in a good-faith effort to expedite prosecution, Applicants have amended independent claims 1 and 12 to delete the phrase "mutant, derivative,

or fragment thereof.” Applicants respectfully submit that the rejection under 35 U.S.C. § 112, second paragraph of independent claims 1 and 12, as well as the claims that depend therefrom, has been overcome and request reconsideration and withdrawal of the rejection.

Rejection of claims 1-4, 7, 10, 12, 13, and 16 under 35 U.S.C. § 112, first paragraph

Applicants respectfully note that claim 5 has been withdrawn from consideration and should not be included in the list of claims rejected under 35 U.S.C. § 112, first paragraph (page 3, 4th paragraph of pending Office Action).

Claims 1-4, 7, 10, 12, 13, and 16 stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. To the extent that this rejection applies to claim 7, this rejection is rendered moot in view of the cancellation of this claim herein. Applicants’ response to this rejection therefore applies solely to claim 1-4, 10, 12, 13, and 16. While not in agreement with the Examiner’s view, in a good-faith effort to expedite prosecution of the present application, Applicants have amended independent claims 1 and 12 to delete the phrase “mutant, derivative, or fragment thereof.” Accordingly, Applicants respectfully request reconsideration and withdrawal of the written description rejection of claims 1-4, 10, 12, 13, and 16.

Rejection of claim 1 under 35 U.S.C. § 102(b)

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Hasel et al. (1999, US Pat No 5,886,163; “Hasel”). Specifically, the Examiner contends that Hasel discloses a recombinant nucleic acid molecule, which encodes a mutant HIV-1 gp120 envelope glycoprotein comprising a V3 loop deletion and a C4 domain point mutation and thus anticipates claim 1 of the current application.

Applicants respectfully submit that Hasel does not anticipate the present invention for the following reasons. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP §2131 (quoting *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Id.* (quoting *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989))

(emphasis added). Therefore, Hasel must describe each and every element of claim 1 in order to anticipate this claim under 35 U.S.C. §102(b). This reference does not satisfy this requirement.

Applicants respectfully point out that there are several key differences in the mutations disclosed in the present invention and those disclosed by Hassel.

First, none of the mutations claimed in the present invention are directed to the C4 domain of the virus, as described in Hassel.

Second, the mutation as described by Hassel renders the virus non-functional as a direct consequence of the point mutation in the C4 domain, as described by Hassel (see page 10, line 32). The mutant virus described by Hassel is unable to replicate, bind to cells, fuse to the cell membrane, enter a cell, or infect a cell. The virus as disclosed by Hassel is a functionally dead virus and therefore cannot be used in any functional assay.

In contrast, the HIV-2 mutant virus as disclosed in the present invention does not comprise a mutation in the C4 domain. The virus as claimed in claim 1 is able to replicate, bind to cells, fuse to cell membranes, enter, and infect cells. The virus as disclosed in the present invention and claimed in claim 1, is therefore a viable virus.

Accordingly, Applicants respectfully submit that claim 1 as amended is not anticipated by Hasel and the rejection should be withdrawn.

The Examiner is respectfully reminded that if claims directed to any elected species are determined to be allowable, the Examiner is required to extend the search and examination to non-elected species. MPEP 809.02 states in part: Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Summary

Applicants respectfully submit that the pending claims are in full condition for allowance. No new matter has been added by way of the amendments set forth herein. Therefore, notification of allowance of the pending claims at the earliest possible time is respectfully requested.

Respectfully submitted,

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